

IN THE US PATENT AND TRADEMARK OFFICE

Application Number: 10/729,582  
Reissue of U.S. Patent 6,328,482  
Attorney Docket Number AFC-002/RE  
Filing Date: December 6, 2003  
Applicant: Benjamin B. Jian  
Application Title: MULTILAYER OPTICAL FIBER COUPLER  
Examiner: Juliana K. Kang  
Art Unit: 2874



AFFIDAVIT- RULE 1.132

STATE OF CALIFORNIA                    )  
  ): SS.  
COUNTY OF SANTA CLARA            )

I, Eugene W. Campbell, being duly sworn, depose and say:

1. I was co-founder and Chief Scientist of Glimmerglass Networks, Inc. of Hayward, California, a leading manufacturer of massively parallel fiber optic switches. I was with Glimmerglass from March 20th, 2000, until January 31<sup>st</sup>, 2006. Prior to joining Glimmerglass, I was a researcher at Lawrence Livermore National Laboratory, where I performed research in optical metrology. I received a PhD in Optical Sciences from the University of Arizona. I am a member of the Optical Society of America (OSA), the International Society for Optical Engineering (SPIE), and the Institute of Electrical and Electronics Engineers (IEEE). I have published numerous articles and papers in peer-reviewed journals relating to optical diffraction, metrology, and switching.

2. I am familiar with the two-dimensional fiber coupler arrays, particularly fiber array couplers using precisely etched through-holes (fiber sockets) in silicon fabricated using deep reactive ion etching (DRIE).

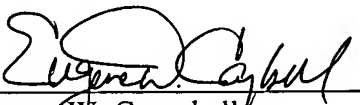
3. I am familiar with the fiber optics industry, particularly as it pertains to massively parallel 3D fiber optic switches and the use of 2D fiber array couplers in such switches.

4. Glimmerglass is one of the two top manufacturers of three-dimensional (3D) massively parallel fiber optic switches in the world. Every one of these switches uses at least

one 2D fiber array. The only type of 2D fiber arrays that Glimmerglass uses in all of its 3D parallel fiber optic switches are 2D fiber arrays with fiber sockets formed by deep reactive ion etching (DRIE) in silicon.

5. One of Glimmerglass' main products is a 64x64-channel 3D parallel fiber optic switch that can arbitrarily switch any of 64 fiber optic inputs to any of 64 fiber optic outputs without any blocking. This 64-channel fiber optic switch manufactured by Glimmerglass is sold under the name "System 300 Intelligent Optical Switch". This 64-channel fiber optic switch uses at least one 2D fiber array with fiber sockets formed by deep reactive ion etching (DRIE) in silicon.

6. To the best of my knowledge, 2D fiber arrays with fiber sockets formed by deep reactive ion etching (DRIE) are the only type of 2D fiber arrays that are currently being used to build a three-dimensional (3D) massively parallel fiber optic switches by all other major manufacturers.

  
\_\_\_\_\_  
Eugene W. Campbell

15 Feb 2006  
\_\_\_\_\_  
Date

State of California )  
 ) ss.  
County of San Mateo )

On this 15<sup>th</sup> day of February, in the year 2006, before me, Kyung Sam Hong, Notary Public, personally appeared Eugene W. Campbell personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature Kyung Sam Hong

(SEAL)

